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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,527	07/07/2003	Damon Gerard van Opdorp	NZ010	9117

7590 05/17/2007

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ART UNIT	**PAPER NUMBER**
2167	
MAIL DATE	**DELIVERY MODE**
05/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/614,527	VAN OPDORP, DAMON GERARD	
	Examiner	Art Unit	
	Michael D. Pham	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52 and 55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52 and 55* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Status of claims

1. Claims 1-52 and 55 are pending.

2. Claims 1, 24, 46, and 55 have been amended.

3. Claims 53-54 have been cancelled.

Claim Objections

4. Prior Objection to claim 55 has been respectfully withdrawn.

Claim Rejections - 35 USC § 101

5. Prior rejections under 35 U.S.C. 101 have been respectfully withdrawn.

Claim Rejections - 35 USC § 112

6. Prior rejections under 35 U.S.C. 112 are withdrawn.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1-2, 4, 6-17, 19-24, 26-39, 41-46, 48-52, and 55 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6807632 by Carpentier et. al. (hereafter Carpentier) further in view of U.S. Patent 6591272 by Williams (hereafter Williams).**

Claim 1:

Carpentier is discloses to the following claimed limitations:

i. "obtaining a first reference reduced representation by" [c. 6. l. 11-14, the computed cryptographic hash descriptor file identifier (can have a first reference reduced representation) may be included in another list of identifiers, and so on, so that complex structures can be reduced and represented in extremely compact form.]:

   a. "creating the first reference reduced representation of" metadata "using an algorithm" [col. 4 lines 45-48, unique asset and associated meta-data as described to produce a unique and useful identifier (e.g. could be a first or second reduced representation of metadata)]; and

   b. storing the first reference reduced representation [c. 7 l. 20-24, binary sequence identifiers are stored (storing)];

ii. "creating a second reduced representation of" metadata "using the algorithm" [col. 4 lines 45-48, unique asset and associated meta-data as described to

produce a unique and useful identifier (e.g. could be a first or second reduced representation of metadata)]

iii. comparing the first reference reduced representation with the second reduced representation to provide an indication of the integrity of the second application [Col. 12 lines 23-32, verifies (e.g. compares) that the unique identifier found (e.g. first reduced representation) in the e-clip matches the result of the cryptographic hash (e.g. second reduced representation) of the descriptor file. If verified (e.g. provides indication of integrity), the recipient builds the directory structure specified by descriptor file]; and

iv. controlling execution of the primary application dependent on the indication [col. 12 line 28, error message (e.g. primary application dependent on) if not verified (e.g. indication)].

Carpentier further discloses, c. 5 l. 35-40, that meta data about database records cataloged in a descriptor file can be used to identify tables (i.e. could be construed to be structure of a database) or files to which those records pertain.

Carpentier does not explicitly disclose the following:

"applying a process to obtain a first schema metadata representative of a database structure of a database from the secondary application;";

"the first obtained schema metadata";

"the second obtained schema metadata"; and

"during execution of a primary application, applying the process to obtain second schema metadata representative of the database structure from the secondary application".

On the other hand, Williams, abstract, discloses contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions. Further disclosing in figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas (i.e. structure from applications) to be obtained. Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31. Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object.

Hence Williams suggests "applying a process to obtain a first schema metadata representative of a database structure of a database" and "the first obtained schema metadata"(Abstract, reading schema metadata. i.e. could be obtaining a first schema metadata) "from the secondary application" (could be figure 2, element 21), and "during execution of a primary application" (a primary application of the invention could be translating, col. 4 line 49). Further suggesting ", applying the process to obtain second schema metadata representative of the database structure" and "the second obtained schema metadata" (Abstract, reading schema metadata. i.e. could be obtaining a second schema metadata) "from the secondary application" (could be figure 2 element 21).

Both Carpentier (Col. 1 lines 14-19) and Williams (Col. 1 lines 13-22) are within the same field of endeavor as both are directed towards transmitting/transferring data from a server computer to a client computer. That both further manipulate structural metadata. For the above reasons, it would have obvious to one of ordinary skill in the art at the time the invention was made to apply Williams disclosure of contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions (Williams, abstract); figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas to be obtained; Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31; and Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object to Carpentier's system in order to allow the user access to data from a plurality of databases and from different vendors and having different object properties (Williams, col. 7 lines 3-7). Thus improving Carpentier's system by providing more substantial compatibility.

Claim 2:

As to claim 2, Carpentier as modified with Williams discloses "The method as claimed in claim 1 wherein the second application is the database" [Carpentier, c.13 l. 25-34, assets may be references to database records].

Claim 4:

As to claim 4, Carpentier as modified with Williams discloses "the method as claimed in claim 2 wherein the algorithm is a hash function"[Carpentier, C. 4 l. 49-50, cryptographic hash function is used to compute an identifier for the data being represented.].

Claim 6:

As to claim 6, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein the algorithm is a lossless compression algorithm" [Carpentier, C. 2 l. 8-10, examples of archive utilities include the tar archiving facility common on unix systems and the various 'zip' programs on personal computers.].

Claim 7:

As to claim 7, Carpentier as modified with Williams discloses "the method as claimed in claim 6 wherein the lossless compression algorithm is one selected from the set of zip, gzip, and bzip2" [Carpentier c. 2 l. 8-10, examples of archive utilities include tar archiving facility common on unix systems and the various 'zip' programs on personal computers].

Claim 8:

As to claim 8, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein the first reference reduced representation is stored by embedding the representation within the primary application" [c. 12 l. 11-14, "such e-clips may be embedded in and readily accessed from database applications, legacy applications, running on mainframes, text retrieval applications, websites, etc.].

Claim 9:

As to claim 9, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein the first reference reduced representation is stored by embedding the representation within configuration files for the primary application" [Carpentier, Col. 12 lines 30-36, "If the unique identifier is verified in step 310, then control is transferred to step 312 and the recipient builds the directory structure specified in the descriptor file. Programming logic is applied to perform system configurations and file operations to create the required directories, using programming operations such as those described by H[t]ML, for example."].

Claim 10:

As to claim 9, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein step (i) is repeated before steps (ii) to (v) at least one time when an expected change occurs to the schema metadata in the database" [Col. 1 lines 28-31, "digital information is highly subject to change and few methods are available to inspect the contents of the digital information to reliably recognize whether it has been changed since some prior time or event." Col. 3 lines 1 – 9, "Currently, it is necessary to keep track of both the files that are on the requesting computer and the files that need to be added so that proper updates can be made. It would be useful if there existed a way to specify all of the files that are to be transferred and to encapsulate that specification in such a way that would allow the files to be retrieved from the most convenient place (locally, if possible). It would further be useful if such a method would allow the files to be reliably verified as the correct files.].

Claim 11:

As to claim 11, Carpentier as modified with Williams discloses "The method as claimed in claim 2, wherein the process includes organizing the extracted schema metadata using a nested and determinable method" [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 12:

As to claim 12, Carpentier as modified with Williams discloses "The method as claimed in claim 11 wherein the nested and determinable method is by alphabetical listing of the schema metadata elements" [Carpentier, Col. 9 lines 24-29, "The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."].

Claim 13:

As to claim 13, Carpentier as modified with Williams discloses "The method as claimed in claim 11 wherein the nested and determinable method is by default database order of the schema metadata elements" [Carpentier, Col. 9 lines 24-29 "The other assets information included with the file list may include directory information about how the assets are organized within a

computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."]

Claim 14:

As to claim 14, Carpentier as modified with Williams discloses "The method as claimed in claim 11 wherein the nested and determinable method is by creation date order of the schema metadata elements" [Carpentier, Col. 9 lines 24-29 "The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."].

Claim 15:

As to claim 15, Carpentier as modified with Williams discloses "The method as claimed in claim 11 wherein the nested and determinable method is by table owner of the schema metadata elements" [Carpentier, Col. 9 lines 24-29 "The other assets information included with the file list may include directory information about how the assets are organized within a computer system, as well as file names, file sizes, time and date stamps for each assets, ownership of the asset, and other asset meta data as is described below."].

Claim 16:

As to claim 16, Carpentier as modified with Williams discloses, "The method as claimed in claim 2 wherein the execution of the primary application is controlled by halting execution of the

primary application" [Carpentier, Col. 12 lines 25-28, if the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-clip is sent again. An error message or other notification may be generated as well.].

Claim 17:

As to claim 17, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein the execution of the primary application is controlled by the primary application sending an error message to one selected from the set of a user of the primary application, a manager of the primary application, a manager of the database, and the database" [Carpentier, Col. 12 lines 25-28, if the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-clip is sent again. An error message or other notification may be generated as well.].

Claim 19:

As to claim 19, Carpentier as modified with Williams discloses, "The method as claimed in claim 2 wherein the process obtains all available schema metadata"[Carpentier, Col. 13 lines 21-23, "If all files have been received, then control is transferred to step 414 and it is indicated that all of the e-CLIP files have been obtained"].

Claim 20:

As to claim 20, Carpentier as modified with Williams discloses "The method as claimed in claim 2 wherein the process only obtains the schema metadata which would affect the primary

application if that schema metadata were to change" [Carpentier, Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well"].

Claim 21:

As to claim 21, Carpentier as modified with Williams discloses "the method as claimed in claim 2 wherein the process utilizes SQL 92 standard to obtain the schema metadata from the database" [wiliams, col. 3 lines 41-47, SQL]

Claim 22:

As to claim 22, Carpentier as modified with Williams discloses "The method claimed in claim 2 wherein the process utilizes the database's API to obtain the schema metadata from the database" [Col. 13 lines 28-34, "The assets, however, may be references to database records, video clips taken from within larger video streams, or other digital assets stored to be passed to other software programs or processes. Rather than instantiating directories and creating files with the contents of the digital assets, the recipient would make them available via some other standard application programming interface."].

Claim 23:

As to claim 22, Carpentier as modified with Williams discloses "The method as claimed in claim 22 wherein the database's API is a Java database API" [Carpentier, Col. 12 lines 62-67, "The

process for broadcasting requests for files, receiving and verifying files, and modifying the broadcast request is accomplished in one embodiment using an importer, which is a small program encoded preferably in the JAVA programming language, or in any other suitable language"].

Claim 24:

Carpentier is discloses the following claimed limitations:

"i. a processor adapted to execute a plurality of applications, adapted to store a plurality of previously calculated reduced representations of schema metadata" [c. 6 l. 11-14, the computed cryptographic hash descriptor file identifier (e.g. a reference reduced representation of the schema metadata) may be included in another list of identifiers, and so on, so that complex structures can be reduced and represented in extremely compact form.],

"to newly calculate a plurality of reduced representations from the plurality of extracted schema metadata" [c. 5 l. 58-60, there is no restriction on the data, meta data or file system structure that can be stored and referenced by an e-clip (could be a calculated reduced representation)] ", and

to compare each of plurality of previously calculated reduced representations with its corresponding newly calculated reduced representation to provide an indication of the integrity of one or more databases" [Col. 12 lines 23-32, verifies (e.g. compares) that

the unique identifier found (e.g. first reduced representation) in the e-clip matches the result of the cryptographic hash (e.g. second reduced representation) of the descriptor file. If verified (e.g. provides indication of integrity), the recipient builds the directory structure specified by descriptor file]; and

ii. one or more databases adapted to receive requests for schema metadata from the plurality of applications and to transmit schema metadata to the plurality of applications dependent of the indication [col. 12 line 28, error message (e.g. primary application dependent on) if not verified (e.g. indication)].

Carpentier further discloses c. 5 l. 35-40, meta data about database records cataloged in a descriptor file can be used to identify tables (i.e. could be structure of database) or files to which those records pertain.

Carpentier does not explicitly disclose "schema metadata representative of the structure of one or more databases" and "to extract a plurality of schema metadata representative of database structure from one or more databases".

On the other hand, Williams, abstract, discloses contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions. Further disclosing in figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas (i.e. structure from applications) to be obtained. Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to

become pseudo-object 30 desired, along with it's associated metadata 31. Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object.

Hence Williams suggests "schema metadata representative of the structure of one or more databases" and "to extract a plurality of schema metadata representative of database structure from one or more databases" based on figure 2. Wherein the elements 20a-e disclose a plurality of database schemas to be obtained.

Both Carpentier (Col. 1 lines 14-19) and Williams (Col. 1 lines 13-22) are within the same field of endeavor as both are directed towards transmitting/transferring data from a server computer to a client computer. That both further manipulate structural metadata. For the above reasons, it would have obvious to one of ordinary skill in the art at the time the invention was made to apply Williams disclosure of contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions (Williams, abstract); figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas to be obtained; Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31; and Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object to Carpentier's system in order to allow the user access to data from a plurality of databases and from different vendors and having different

object properties (Williams, col. 7 lines 3-7). Thus improving Carpentier's system by providing more substantial compatibility.

Claim 26:

As to claim 26, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein the reduced representations are calculated using a hash function"[Carpentier, C. 4 l. 49-50, cryptographic hash function is used to compute an identifier for the data being represented.].

Claim 27:

As to claim 27, "The system as claimed in claim 26 wherein the hash function is one selected from the set of MD5 and CRC32" [Carpentier c. 8 line 66.].

Claim 28:

As to claim 28, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein reduced representations are calculated using a lossless compression algorithm. " [Carpentier, C. 2 l. 8-10, examples of archive utilities include the tar archiving facility common on unix systems and the various 'zip' programs on personal computers.].

Claim 29:

As to claim 29, Carpentier as modified with Williams discloses "The system as claimed in claim 28 wherein the lossless compression algorithm is one selected from the set of zip, gzip, bzip2" [Carpentier c. 2 l. 8-10, examples of archive utilities include tar archiving facility common on unix systems and the various 'zip' programs on personal computers].

Claim 30:

As to claim 30, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each previously calculated reduced representation is stored by embedding the representation within its associated application." [c. 12 l. 11-14, "such e-clips may be embedded in and readily accessed from database applications, legacy applications, running on mainframes, text retrieval applications, websites, etc.].

Claim 31:

As to claim 31, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each previously calculated reduced representation is stored by embedding the representation within configuration files for its associated application" [Carpentier, Col. 12 lines 30-36, "If the unique identifier is verified in step 310, then control is transferred to step 312 and the recipient builds the directory structure specified in the descriptor file. Programming logic is applied to perform system configurations and file operations to create the required directories, using programming operations such as those described by H[t]ML, for example."].

Claim 32:

As to claim 32, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each schema metadata is organized using a nested and determinable method before its reduced representation is calculated." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 33:

As to claim 33, Carpentier as modified with Williams discloses "The system as claimed in claim 32 wherein the nested and determinable method is by alphabetical listing of the schema metadata elements." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 34:

As to claim 34, Carpentier as modified with Williams discloses "The system as claimed in claim 32 wherein the nested and determinable method is by default database order of the schema metadata elements." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is

helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 35:

As to claim 35, Carpentier as modified with Williams discloses "The system as claimed in claim 32 wherein the nested and determinable method is by creation date order of the schema metadata elements." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 36:

As to claim 36, Carpentier as modified with Williams discloses "The system as claimed in claim 32 wherein the nested and determinable method is by table owner of the schema metadata elements." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 37:

As to claim 37, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein the result of each comparison controls execution of its associated application." [Carpentier, Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."]

Claim 38:

As to claim 38, Carpentier as modified with Williams discloses "The system as claimed in claim 37 wherein the execution of the application is controlled by halting execution of the application." [Carpentier, Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."]

Claim 39:

As to claim 39, Carpentier as modified with Williams discloses "The system as claimed in claim 37 wherein the execution of the application is controlled by the application sending an error message to one selected from the set of a user of the application, a manager of the application, a manager of the associated database, and the associated database." [Carpentier, Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well."]

Claim 41:

As to claim 41, Carpentier as modified with Williams discloses, "The system as claimed in claim 24 wherein each application is adapted to extract all available schema metadata from each database"[Carpentier, Col. 13 lines 21-23, "If all files have been received, then control is transferred to step 414 and it is indicated that all of the e-CLIP files have been obtained"].

Claim 42:

As to claim 42, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each application is adapted to extract the schema metadata which would affect the application if that schema metadata were to change." [Carpentier, Col. 12 lines 25-28, "If the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-CLIP is sent again. An error message or other notification may be generated as well"].

Claim 43:

As to claim 43, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each application is adapted to utilize the SQL92 standard to extract the schema metadata from each database." [wiliams, col. 3 lines 41-47, SQL]

Claim 44:

As to claim 44, Carpentier as modified with Williams discloses "The system as claimed in claim 24 wherein each application is adapted to utilize the database's API to extract the schema metadata from each database." [Carpentier, Col. 13 lines 28-34, "The assets, however, may be references to database records, video clips taken from within larger video streams, or other digital assets stored to be passed to other software programs or processes. Rather than instantiating directories and creating files with the contents of the digital assets, the recipient would make them available via some other standard application programming interface."].

Claim 45:

As to claim 45, Carpentier as modified with Williams discloses "The system as claimed in claim 44 wherein the database's API is a Java database API." [Carpentier, Col. 12 lines 62-67, "The process for broadcasting requests for files, receiving and verifying files, and modifying the broadcast request is accomplished in one embodiment using an importer, which is a small program encoded preferably in the JAVA programming language, or in any other suitable language"].

Claim 46:

Carpentier discloses the following claimed limitations:

i. an application(c. 5 l. 45-47, transferring files (could be an application));

ii. a stored reduced representation of schema metadata of a database [c. 6 l. 11-14, the computed cryptographic hash descriptor file identifier (can have a reference reduced

representation of the schema metadata) may be included in another list of identifiers, and so on, so that complex structures can be reduced and represented in extremely compact form.]; and

iii. a verification engine which upon connection to the database obtains a reduced representation of schema metadata from the database [C. 12 lines 57-62, "once the descriptor file is retrieved, the e-CLIP recipient is able to verify that the correct descriptor file has been recovered and then broadcasts requests for the files specified in the descriptor file.] and compares it with the stored reduced representation in order to provide an indication of the integrity of the database [Col. 12 lines 23-32, verifies (compares) that the unique identifier found (first reduced representation) in the e-clip matches the result of the cryptographic hash (second reduced representation) of the descriptor file. If verified (provides indication of integrity), the recipient builds the directory structure (i.e. application) specified by descriptor file] to control the application based upon the indication [col. 12 line 28, error message (e.g. primary application dependent on) if not verified (e.g. indication)].

Carpentier further discloses c. 5 l. 35-40, meta data about database records cataloged in a descriptor file can be used to identify tables (i.e. could be structure of database) or files to which those records pertain.

Carpentier does not explicitly disclose "schema metadata representative of the structure of a database".

On the other hand, Williams, abstract, discloses contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions. Further disclosing in figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas (i.e. structure from applications) to be obtained. Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31. Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object.

Hence Williams suggests "schema metadata representative of the structure of one or more databases" and "to extract a plurality of schema metadata representative of database structure from one or more databases" based on figure 2. Wherein the elements 20a-e disclose a plurality of database schemas to be obtained.

Both Carpentier (Col. 1 lines 14-19) and Williams (Col. 1 lines 13-22) are within the same field of endeavor as both are directed towards transmitting/transferring data from a server computer to a client computer. That both further manipulate structural metadata. For the above reasons, it would have obvious to one of ordinary skill in the art at the time the invention was made to apply Williams disclosure of contents of databases are translated into objects by reading the database

schema metadata to determine data interrelationships and create objects with nominal human to computer interactions (Williams, abstract); figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas to be obtained; Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31; and Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object to Carpentier's system in order to allow the user access to data from a plurality of databases and from different vendors and having different object properties (Williams, col. 7 lines 3-7). Thus improving Carpentier's system by providing more substantial compatibility.

Claim 48:

As to claim 48, Carpentier as modified with Williams discloses "The system as claimed in claim 46 wherein the reduced representations are calculated using a hash function." [Carpentier, C. 4 l. 49-50, cryptographic hash function is used to compute an identifier for the data being represented.].

Claim 49:

As to claim 49, Carpentier as modified with Williams discloses "The system as claimed in claim 46 wherein the stored reduced representation is stored by embedding the representation within the application." [Carpentier, Col. 12 lines 30-36, "If the unique identifier is verified in step 310, then control is transferred to step 312 and the recipient builds the directory structure specified in

the descriptor file. Programming logic is applied to perform system configurations and file operations to create the required directories, using programming operations such as those described by H[t]ML, for example."].

Claim 50:

As to claim 50, Carpentier as modified with Williams discloses "The system as claimed in claim 48 wherein each schema metadata is organized using a nested and determinable method before its reduced representation is calculated." [Carpentier, Col. 5 lines 30-36, "Having such file directory structure is helpful in determining how to organize files amongst their respective folders. For example, after data is lost on a particular computer, the file list can be used to not only identify lost files, but also to reorganize the files into the appropriate directory structure."].

Claim 51:

As to claim 51, Carpentier as modified with Williams discloses, "The system as claimed in claim 46 wherein the application is controlled by halting execution of the application." [Carpentier, Col. 12 lines 25-28, if the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-clip is sent again. An error message or other notification may be generated as well.].

Claim 52:

As to claim 52, Carpentier as modified with Williams discloses "The system as claimed in claim 46 wherein the application is controlled by the application sending an error message to one selected from the set of a user of the application, a manager of the application, a manager of the associated database, and the associated database." [Carpentier, Col. 12 lines 25-28, if the unique identifier is not properly verified, then control is transferred back to step 304 and the request for the file identified in the e-clip is sent again. An error message or other notification may be generated as well.].

Claim 55:

Storage media containing software as claimed in claim 1 [carpentier, col. 17 lines 67-67 and col. 18 line 1, "In addition, embodiments of the present invention further relate to computer storage products (software) with a computer-readable medium (storage media) that have computer code thereon for performing various computer-implemented operations. The media and computer code may be those specially designed and constructed for the purposes of the present invention, or they may be of the kind well known and available to those having skill in the computer software arts."].

9. Claims 18 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6807632 by Carpentier et. al. (hereafter Carpentier) as applied to further in

view of U.S. Patent 6591272 by Williams (hereafter Williams) and U.S. Patent 6957221 by Hart et. al. (hereafter Hart)

Claim 18:

Carpentier and Williams do not explicitly disclose

"The method as claimed in claim 2 further comprising the step of:

i. requesting a schema stability lock of the database."

However Hart, discloses, Col. 5 lines 43-47, audit blocking which is "..a structured package containing potentially many Audit Records (in the extreme situation, it is also possible that a single Audit Block could only contain a partial Audit Record). There are a number of control words at the beginning and end of each audit block.".

Therefore it would have been obvious to one of ordinary skill to modify Carpentier to include the steps of requesting a schema stability lock of the database for the purpose of avoiding interference with changes being made to the data.

Claim 40:

As to claim 40, Carpentier and Williams do not explicitly disclose "The system as claimed in claim 24 wherein the plurality of applications are further adapted to request a schema stability lock of the one or more databases."

However Hart, discloses, Col. 5 lines 43-47, audit blocking which is "..a structured package containing potentially many Audit Records (in the extreme situation, it is also possible that a single Audit Block could only contain a partial Audit Record). There are a number of control words at the beginning and end of each audit block.".

Therefore it would have been obvious to one of ordinary skill to modify Carpentier and Williams to include the steps of requesting a schema stability lock of the database for the purpose of avoiding interference with changes are being made to the data.

10. Claims 3, 5, 25, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6807632 by Carpentier et. al. (hereafter Carpentier) as applied to further in view of U.S. Patent 6591272 by Williams (hereafter Williams) and Admitted Prior art from the background section of the specifications (hereafter background)

Claim 3:

As to claim 3, Carpentier and Williams do not explicitly disclose "The method as claimed in claim 2 wherein the first or second schema metadata is selected from the set of tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs."

However, the Background discloses on page 1: "Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs."

It would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier and Williams to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring "integrity of the structure of database before using it."

Claim 5:

As to claim 5, "The method as claimed in claim 3 wherein the hash function is one selected from the set of MD5 and CRC32" [Carpentier c. 8 line 66.].

Claim 25:

As to claim 25, Carpentier and Williams do not explicitly disclose "The system as claimed in claim 24 wherein the schema metadata is selected from the set of tables, columns in tables, data types of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs"

However, the Background discloses on page 1: "Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs."

It would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier and Williams to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring "integrity of the structure of database before using it."

Claim 47:

As to claim 47, Carpentier and Williams do not explicitly disclose "The system as claimed in claim 46 wherein the schema metadata is selected from the set of tables, columns in tables, data types of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs."

However, the Background discloses on page 1: "Schema metadata includes tables, columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views, triggers, indices, and scheduled jobs."

It would have been obvious to one of ordinary skill at the time the invention was made to modify Carpentier and Williams to include the steps of having schema metadata selected from the set of tables columns in tables, datatypes of columns, lengths of columns, custom database data types, foreign keys, constraints, stored procedures, views triggers, indices, and scheduled jobs based on the disclosure of the Background for the purpose of assuring "integrity of the structure of database before using it."

Response to Amendment

11. Applicant's arguments filed 2/20/07 have been fully considered but they are not persuasive.

Applicant asserts the following (lettered):

a. That there is no motivation or suggestion to combine the prior art and therefore the rejection is improper. That Carpentier and Williams are non-analogous prior art because they are not in the field of endeavour of the applicant and are not reasonably pertinent to the particular problem with which the invention is concerned. (remarks, page 14). Stating that neither Carpentier nor Williams is in applicant's endeavour of providing an indication of integrity of an application. That this is because Carpentier is directed towards distinguishing different versions of files with the same identifier or recognizing identical files with different identifiers, citing col. 2 lines 32-36 of Carpentier. And that Williams is directed towards mapping data from a database into object-oriented applications citing Williams abstract and col. 4 lines 48-51. (remarks page 14/15). That Carpentier and Williams are also in a different field of endeavour that they are not reasonably pertinent to the particular problem with which the invention is concerned. Stating that Carpentier is directed towards determining the specific data within a data file or determining

the identify of a data file in order to ascertain whether that data file should be transmitted or reproduced. While Williams provides a method of retrieving information from a database in a generic manner so the information can be used in a mapping tool to match various application's requirements. (remarks page 15)

First in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Carpentier did not explicitly disclose "applying a process to obtain a first metadata representative of a database structure of a database from the secondary application" and "during execution of a primary application applying the process to obtain second schema metadata representative of the database structure from the secondary application". However, Williams, abstract, disclosed contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions. Further disclosing in figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas (i.e. structure from applications) to be obtained. Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-

object 30 desired, along with it's associated metadata 31. Col. 8 lines 42-44, disclose that the relationship between these objects, called metadata, was transmitted with the pseudo object.

Hence Williams suggests "applying a process to obtain a first schema metadata representative of a database structure of a database" (Abstract, reading schema metadata. i.e. could be obtaining a first schema metadata) "from the secondary application" (could be figure 2, element 21), and "during execution of a primary application" (a primary application of the invention could be translating, col. 4 line 49) ", applying the process to obtain second schema metadata representative of the database structure" (Abstract, reading schema metadata. i.e. could be obtaining a second schema metadata) "from the secondary application" (could be figure 2 element 21).

Both Carpentier (Col. 1 lines 14-19) and Williams (Col. 1 lines 13-22) are within the same field of endeavor as both are directed towards transmitting/transferring data from a server computer to a client computer. That both further manipulate structural metadata. For the above reasons, it would have obvious to one of ordinary skill in the art at the time the invention was made to apply Williams disclosure of contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions (Williams, abstract); figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas to be obtained; Col. 8 lines 18-20 discloses that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31; and Col. 8 lines 42-44, disclose that the

relationship between these objects, called metadata, was transmitted with the pseudo object to Carpentier's system in order to allow the user access to data from a plurality of databases and from different vendors and having different object properties (Williams, col. 7 lines 3-7). Thus improving Carpentier's system by providing more substantial compatibility.

In response to applicant's argument that Carpentier and Williams are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See In re Oetiker, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Applicant's above state that the invention is in the field of providing an indication of integrity of an application. Carpentier discloses that for transfers (i.e. applications) there is a notification generated when files fail the verification test (col. 12 lines 51-54, i.e. indication of integrity). Further disclosing col. 13 lines 16-26, that if files have been received then control is transferred and it is indicated that all the e-clip files have been obtained. Therefore, Carpentier is also within applicant's field of endeavor of providing an indication of integrity of an application, and furthermore because Carpentier's teachings is also within the field of applicant's endeavor, Carpentier is therefore reasonably pertinent to the particular problem to which applicant is concerned. As to Williams, Williams' discloses col. 4 lines 60-65 that if so desired, an inexperienced user can easily select a subset of all possible objects represented by the databases through use of a simple and intuitive graphical interface. That conversely, tables and interrelationships not required by the application can be easily deselected through use of the graphical user interface. Hence,

Williams discloses providing an indication of integrity of an application (selecting/deselecting required and non-required tables and relationships of an application. Thereby maintaining data integrity), and therefore because Williams' teachings are within the field of applicant's endeavor Williams' is therefore reasonably pertinent to the particular problem of which applicant is concerned.

C. As to applicant's statement of in contrast that the claimed invention is addressing the inability to confirm that a secondary application's integrity is intact prior to controlling a primary application that is dependent of the secondary application's integrity. (remarks, page 15).

In response, applicant's claimed invention is addressing a primary application to provide an indication of the integrity of a second application. As above, Carpentier in combination with Williams discloses this, as it is indicated explicitly in at least Williams that a user is able to deselect all possible tables and interrelationships not required by the application, as well as select all required tables and interrelationships. Hence providing an indication of the integrity of a secondary application (selecting/deselecting tables and relationships for an application) by a primary application (actual application that provides the selecting/deselecting).

c. That although Carpentier may disclose metadata about records catalogued in a descriptor file that can be used to identify tables or files to which those records pertain. That this is not the same as providing schema metadata. That metadata and schema metadata are two distinct things. Schema metadata is representative of a structure. That it s clear from the above

sentence that the metadata referred to in Carpentier is merely used to identify. That it is used to indicate which of the tables or files is being referred to. That this is carried out by providing identification information not structural information. That this is tied in with the purpose of Carpentier which is to check whether files identified in the same way (have same file name) actually hold different data or whether files identified in a different way (have different file names) actually hold the same date. That it does not mean that data is provided showing how the table is structured or laid out, i.e. Carpentier does not disclose the provision of schema metadata, and the teaching is only directed towards comparing the actual data in a file or comparing identification information associated with a file. (remarks page 17)

In response, the examiner respectfully disagrees with applicants that schema metadata and metadata are actually distinct. Applicant's state that Schema metadata is representative of a structure. However, Carpentier discloses, col. 4 lines 64-67, to col. 5 line 1, meta data such as arbitrary directory structure (including relational or hierarchical relationships) information as well as file, record, or other asset meta data such as file, record, or asset name, size date and time stamps and other descriptive data or attributes. Hence Carpentier's meta data suggests representing structures. Therefore, assertions directed towards Carpentier's metadata and schema metadata are distinct is unpersuasive over the cited art as Carpentier's metadata also representative of structures.

Carpentier further states that unique asset and associated meta-data as described to produce a unique and useful identifier which enables creation of persistent storage of the related assets for

future reproduction of the originals (col. 4 lines 45-48). That a cryptographic hash function is used to compute an identifier for the data being represented (col. 4 lines 49-50).

Therefore as asserted the claim limitation

v. comparing the first reference reduced representation with the second reduced representation to provide an indication of the integrity of the second application [Col. 12 lines 23-32, verifies (compares) that the unique identifier found (first reduced representation) in the e-clip matches the result of the cryptographic hash (second reduced representation) of the descriptor file. If verified (provides indication of integrity), the recipient builds the directory structure (i.e. application) specified by descriptor file]; and

However, as noted above in the rejections, Williams provided a more explicit schema metadata claimed by applicants.

d. The claimed invention is concerned with checking that the schema of a secondary application (e.g. database) is the same as when it was previously checked, and is not concerned with whether the data stored in the database is acceptable or indeed present. The claimed invention does not verify data files of a database, but instead provides an indication of the integrity of the database based on whether the schema of the database has changed. That based on the indication, the execution of a primary application is controlled. Stating that a primary application may for

example send an error report if there is a change in the schema, or may query the database if there is not change in the schema. (remarks, page 17)

In response, the limitations do not clearly limit the invention to check the schema of a secondary application is the same as when it was previously. Although, the claimed invention is directed to a first and second schema metadata is obtained for a secondary application, and then a first and second reduced representation is created from the schema metadata. Then comparing the first and second reduced representations in order to provide an indication of the integrity of the secondary application. However, "during execution of a primary application" is indefinite. It appears the primary application can be run anytime. Otherwise

As stated above in C, Carpentier states that unique asset and associated meta-data as described to produce a unique and useful identifier which enables creation of persistent storage of the related assets for future reproduction of the originals (col. 4 lines 45-48). That is, these identifiers are based off of metadata. That in Col. 12 lines 23-32, these identifiers are verified with one another (i.e. compared). Col. 12 lines 28 states that an error message maybe generated as a result one possible primary application. That the metadata in Carpentier could be metadata representative of a database structure as seen in col. 4 lines 63-67. However this does not to appear to be as explicit as Williams. See, figure 2 elements 20a-e of Williams as a more explicit schema metadata. Furthermore as stated in the rejection, Williams provides obtaining a first and second schema metadata representative of the database structure of a database from the secondary application. See figure 2, elements 20a and e, and element 21. That is, obtaining a

first and second schema metadata representative of the database structure of a database (elements 20a-e) from the secondary application (element 21).

e. That even if combined, the combination does not provide the particular feature of providing an indication of the integrity of a secondary application based on a comparison of first and second reduced representations of schema metadata is not disclosed or suggested. That Carpentier merely teaches a determination of whether or not a file already exists on the system by comparing hashed data (and identify information) from the file with hashed data (and identify information) of existing files. That this determination results in the application either copying/transmitting the file or not. That the mere inclusion of schema metadata as taught by Williams into the information transmitted as taught by Carpentier does not lead to an indication of the integrity of the application but will merely result in Carpentier comparing the schema metadata of files to determine if that file is the same as another file on the system. (remarks page 16)

In response, as stated above, Carpentier does suggest metadata that is representative of a database structure (Carpentier, col. 4 lines 64-67); however not as explicitly as Williams. Further, it was noted above that Carpentier's identifiers are produced based on metadata (Carpentier, col. 4 lines 45-48). And that these identifiers are verified (col. 12 lines 25-32). E.g. compared with one another. Thus it does lead to an indication of the integrity of the application. Where when the secondary application (e.g. directory/file/database/etc.) is verified by use of identifiers in the e-clip and descriptor files (e.g. first and second reduced representations of

directory/file/database/etc.), it is therefore built or an error message occurs (primary application dependent on indication).

Both Carpentier (Col. 1 lines 14-19) and Williams (Col. 1 lines 13-22) are within the same field of endeavor as both are directed towards transmitting/transferring data from a server computer to a client computer. That both further manipulate structural metadata. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Williams' disclosure of the abstract where contents of databases are translated into objects by reading the database schema metadata to determine data interrelationships and create objects with nominal human to computer interactions; figure 2, elements 20a-20e and col. 7 lines 6-7, a plurality of database schemas (i.e. structure from applications) to be obtained; Col. 8 lines 18-20 that databases 20(a-e) are enveloped by code 26 to become pseudo-object 30 desired, along with it's associated metadata 31; and further disclosing Col. 8 lines 42-44 that the relationship between these objects, called metadata, was transmitted with the pseudo object all to the system of Carpentier in order to allow the user access to data from a plurality of databases and from different vendors and having different object properties (Williams, col. 7 lines 3-7). Thus improving Carpentier's system by providing more substantial compatibility.

Conclusion

12. The prior art made of record listed on PTO-892 and not relied, if any, upon is considered pertinent to applicant's disclosure.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael D. Pham whose telephone number is (571)272-3924. The examiner can normally be reached on Monday - Friday 9am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on 571-272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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